

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 March 2004 (18.03.2004)

PCT

(10) International Publication Number  
**WO 2004/022458 A3**

(51) International Patent Classification<sup>7</sup>: **H01R 25/00**

(21) International Application Number:  
PCT/US2003/027584

(22) International Filing Date:  
4 September 2003 (04.09.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/408,149 4 September 2002 (04.09.2002) US

(71) Applicant (for all designated States except US): **HERMAN MILLER, INC.** [US/US]; 855 East Main Avenue, P.O. Box 302, Zeeland, MI 49464-0302 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **INSALACO, Robert, W.** [US/US]; 415 Goldcrest Drive, Holland,

MI 49424 (US). **HOWE, Russel** [US/US]; 4343 Ocean View Blvd., Apartment 179, Montrose, CA 91020 (US). **LONG, James, B.** [US/US]; 3345 Breton Valley Dr., S.E., Kentwood, MI 49512 (US). **HILLIS, Daniel, W.** [US/US]; 4750 Encino Avenue, Encino, CA 91316 (US).

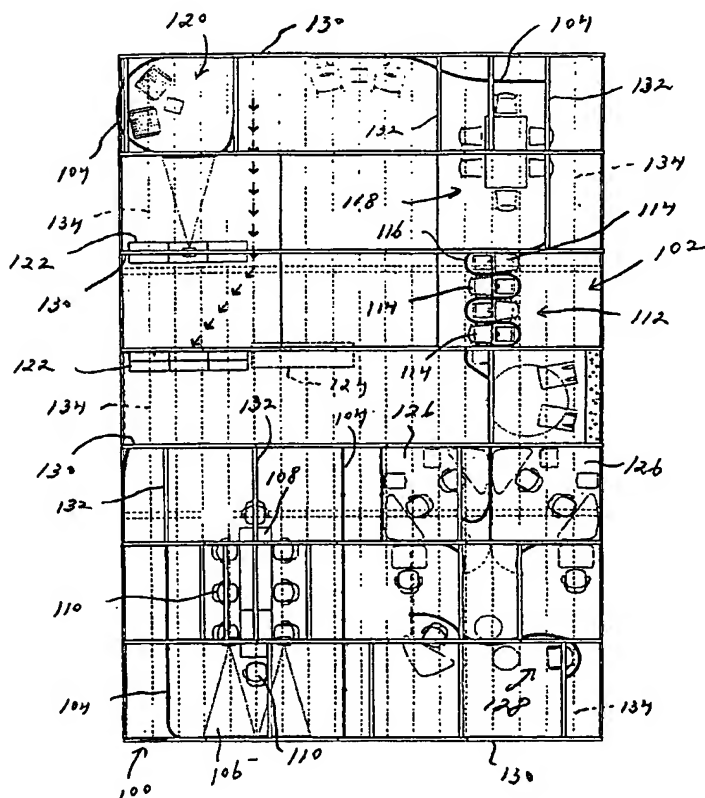
(74) Agent: **LOCKHART, Thomas, L.**; Varnum, Riddering, Schmidt & Howlett LLP, Bridgewater Place, P.O. Box 352, Grand Rapids, MI 49501-0352 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),

[Continued on next page]

(54) Title: RAIL SYSTEM



(57) Abstract: A rail system (100) is disclosed which may be employed within a commercial interior (102). The rail system (100) comprises a series of primary-tracks (130) in a spaced apart configuration. The rail system (100) also comprises a series of cross rails (132) releasably interconnectable to the primary tracks (130). The rail system (100) permits electrical and mechanical interconnections and reconfiguration of electrical and mechanical interconnections, for various functional accessories and communications.



Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

**(88) Date of publication of the international search report:**  
7 October 2004

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/27584

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : H01R 25/00

US CL : 174/68.1

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 174/68.1,68.3,48,72A; 439/110,115,119,120,121; 362/147,148,150,153

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched  
NONEElectronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EAST: TRACK WITH PARTITIONS**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,591,764 A (NILSSEN) 27 May 1986 (27.05.1986), see entire document.	1,2
Y,E	US 6,716,042 B2 (LIN) 06 April 2004 (06.04.2004), see entire document.	12-22,26,29-34,36-45
A	US 6,059,582 A (TSAI) 09 May 2000 (09.05.2000), see entire document.	3-11,23- 25,27,28,35,46-52

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;"

document member of the same patent family

Date of the actual completion of the international search

09 August 2004 (09.08.2004)

Date of mailing of the international search report

18 AUG 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Dhiru Patel

Telephone No. 571-272-1983